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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius	AWBP	Aransas-Wood Buffalo National Park
°F	degrees Fahrenheit	BA	Biological Assessment
µg/m ³	micrograms per cubic meter	bbl	barrel
/m	per meter	bcf	billion cubic feet
AA	alluvial aquifer	bcf/d	billion cubic feet/day
AAQS	Ambient Air Quality Standards	BEA	U.S. Bureau of Economic Analysis
AAR	American Association of Railroads	BEPC	Basin Electric Power Cooperative
ABMI	Alberta Biodiversity Monitoring Institute	BG	block group
AC	alternating current	BGEPA	Bald and Golden Eagle Protection Act
ACHP	Advisory Council on Historic Preservation	bgs	below ground surface
ACS	American Community Survey	BIA	Bureau of Indian Affairs
ACVG	alternating current voltage gradient	BLM	Bureau of Land Management
AEO	Annual Energy Outlook	BMP	best management practice
AEUB	Alberta Energy and Utilities Board	BNSF	BNSF Railway Company
AG	agriculture	BOR	U.S. Bureau of Reclamation
Al-Pac FMA	Alberta-Pacific Forest Industries Forest Management Area	bpd	barrels per day
amsl	above mean sea level	BS&W	basic sediment and water
ANSI	American National Standards Institute	BTEX	benzene, toluene, ethylbenzene, and xylene
AOC	abnormal operating conditions	CAA	Clean Air Act
AOPL	Association of Oil Pipelines	CAAA	Clean Air Act Amendments
APE	area of potential effects	CAFE	Corporate Average Fuel Economy
API	American Petroleum Institute	CAFO	concentrated animal feeding operation
APLIC	Avian Power Line Interaction Committee	CAPP	Canadian Association of Petroleum Producers
AQCR	Air Quality Control Regions	CCPS	Center for Chemical Process Safety
AqL	aquatic life	CCS	Carbon capture and storage
ARM	Administrative Rules Montana	CE	carbon equivalents
ARPA	Archeological Resources Protection Act	CEA	cumulative effects analysis
ASME	American Society of Mechanical Engineers	CEAA	Canadian Environmental Assessment Act
ATWS	additional temporary work space	CEC	Commission for Environmental Cooperation
AUB	Alberta Utilities Commission	CEQ	Council on Environmental Quality

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	DNRC	Department of Natural Resources and Conservation
cfm	cubic feet per minute	DO	dissolved oxygen
CFR	Code of Federal Regulations	DOH	Department of Health
CH ₄	methane	DPHHS	Department of Public Health and Human Services
CHAAP	Cornhusker Army Ammunition Plant	Dth/day	decaliters per day
CIS	close-interval survey	DW	drinking water
CL	centerline	DWT	deadweight tonnage
CL ROW	centerline of the right-of-way	e-GRID	Emissions & Generation Resource Integrated Database
cm	centimeter	EC	Economic Corridor
CMIP	Coupled Model Intercomparison Project	EES	electrical equipment shelter
CMRP	Construction, Mitigation, and Reclamation Plan	EI	environmental inspector
CMZ	channel mitigation zone	EIA	Energy Information Administration
CN	Canadian national	EIS	Environmental Impact Statement
CNW	commercially navigable waterway	EO	Executive Order
CO	carbon monoxide	ERCB	Energy Resources Conservation Board
CO ₂	carbon dioxide	ERP	Emergency Response Plan
CO _{2e}	carbon dioxide equivalent	ESA	Endangered Species Act
co-ops	cooperatives	ESR	Environmental Screening Report
cP	centipoises	ESRI	Environmental Systems Research Institute
CP	cathodic protection	EUB	Alberta Energy and Utilities Board
CPRS	Canadian Pacific Railway System	FBE	fusion-bonded epoxy
CRM	Control Room Management Rule	FEMA	Federal Emergency Management Agency
CRP	Conservation Reserve Program	FERC	Federal Energy Regulatory Commission
CSA	Canadian Standards Association	Final EIS	Final Environmental Impact Statement
CSS	cyclic steam stimulation	<i>FIRM</i>	<i>Flood insurance rate map</i>
CT	census tract	FOIA	Freedom of Information Act
CVA	Central Valley Agriculture	FPR	failure pressure ratio
CWA	Clean Water Act	FR	Federal Register
CY	contractor yard	FSA	Farm Service Agency
dBA	decibels on the A-weighted scale	ft	feet
DC	direct current	ft/d	feet per day
DCVG	direct current voltage gradient	FWCA	Fish and Wildlife Coordination Act
Department	U.S. Department of State	FWP	Farmable Wetlands Program
dilbit	diluted bitumen	g	gram
DME	Dakota, Minnesota, & Eastern Railroad		

g/cm^3	grams per cubic centimeter	in	inch
g/hp-hr	grams per horsepower-hour	IPCC	Intergovernmental Panel on Climate Change
g/m^2	grams per square meter	ISO	International Organization for Standardization
g/ml	grams per milliliter	ITOPF	International Tanker Owners Pollution Federation Limited
GAP	National Gap Analysis Program	KDWPT	Kansas Department of Wildlife, Parks, and Tourism
GDP	gross domestic product	Keystone	TransCanada Keystone Pipeline, LP
GHG	greenhouse gas	kg	kilogram
GIS	Geographic Information System	kg/m^3	kilograms per cubic meter
GOR	Gas-oil ratio	km	kilometer
GPA	Great Plains Aquifer	km^2	square kilometers
gpm	gallons per minute	KMIGT	Kinder-Morgan Interstate Gas Transmission
GSP	gross state product	kPa	kilopascal
H_2S	hydrogen sulfide	KSDA	Kansas Department of Agriculture
HAP	hazardous air pollutant	kV	kilovolt
HC	hydrocarbons	kW	kilowatt
HCA	high consequence area	LB	Legislative Bill
HDD	horizontal directional drill	lb/MMBtu	pounds per million British Thermal Units
HFC	hydrofluorocarbon	LCA	lifecycle analysis
HFE	hydrofluorinated ether	LCFS	low carbon fuel standard
HHV	high heating value	LCNHT	Lewis and Clark National Historic Trail
hp	horsepower	Ldn	day-night sound level
HPA	high population area	LDS	leak detection system
HPRCC	High Plains Regional Climate Center	Leq	equivalent continuous sound level
HPSA	Health Professional Shortage Areas	Leq(24)	24-hour equivalent sound level
hr	hour	LHV	Lower heating value
hr/yr	hours per year	LLC	limited liability company
HRSA	Health Resource Services Administration	LLS	Light Louisiana Sweet
HSSM	Hydrocarbon Spill Screening Model	LNAPL	light non-aqueous phase liquid
HVDC	high voltage direct current	LOOP	Louisiana Offshore Oil Port
IBA	important bird area	LSHR	landscape hazard ranking system
IC	Incident Commander	LVH	lower heating value
ICF	ICF International LLC	LW	local/county noxious week
ICS	Incident Command System	m	meter
IEA	International Energy Agency	m/d	meter per day
IEO	International Energy Outlook		
IHS CERA	IHS Cambridge Energy Research Associates, Inc.		
IMLV	Intermediate mainline valve		

m^3	cubic meter	MOP	maximum operating pressure
MACT	Maximum Achievable Control Technology	MP	milepost
MALAA	may affect, likely to adversely affect	MPDES	Montana Pollutant Discharge Elimination System
MBCA	Migratory Bird Convention Act	mpg	miles per gallon
MBCB	Montana Building Code Bureau	MROW	Midwest Reliability Organization West
MBOGC	Montana Board of Oil and Gas Conservation	MSA	metropolitan statistical area
MBTA	Migratory Bird Treaty Act	MSDS	Material Data Safety Sheets
MCA	Montana Code Annotated	MT	Montana
MCL	maximum contaminant level	MUA/P	Medically Underserved Areas/Populations
MCR	micro carbon residue	MW	megawatt
MDA	Montana Department of Agriculture	MWh/yr	megawatt-hour per year
MDEQ	Montana Department of Environmental Quality	N ₂ O	nitrous oxide
MDNRC	Montana Department of Natural Resources and Conservation	NA	not applicable
MDT	Montana Department of Transportation	na	not available
MDU	Montana-Dakota Utilities	NAAQS	National Ambient Air Quality Standards
MFSA	Major Facilities Siting Act	NAC	Nebraska Administrative Code
MFWP	Montana Fish, Wildlife, and Parks	NACE	National Association of Corrosion Engineers
mg	milligrams	NAGPRA	Native America Graves Protection and Repatriation Act
mg/L	milligrams per liter	NAIP	National Aerial Imagery Program
mgKOH/g	milligrams potassium hydroxide per gram	NAS	National Academy of Sciences
MGWPCS	Montana Ground Water Pollution Control System	NCRC	Nebraska Central Railroad Company
mi^2	square miles	ND	no data
MJ	megajoule	NDA	Nebraska Department of Agriculture
MLA	Mineral Leasing Act	NDE	nondestructive examination
MLV	mainline valve	NDEQ	Nebraska Department of Environmental Quality
mmbpd	million barrels per day	NDGFD	North Dakota Game and Fish Department
MMBu	million British thermal units	NDHHS	Nebraska Department of Health and Human Services
MMcf/d	million cubic feet per day	NDOR	Nebraska Department of Roads
MMDK	million decatherms	NDPA	North Dakota Pipeline Authority
mmhos/cm	millimhos per centimeter	NE SFM	Nebraska State Fire Marshal
MMTCO ₂ e	million metric tons of CO ₂ equivalent		
MNHP	Montana Natural Heritage Program		

NEAAQS	Nebraska Ambient Air Quality Standards	NPPD	Nebraska Public Power District
NEB	National Energy Board (Canada)	NPR	National Public Radio
NEPA	National Environmental Policy Act	NPS	National Park Service
NESHAP	National Emissions Standards for Hazardous Air Pollutants	NRC	National Response Center
NETL	National Energy Technology Laboratory	NRCS	Natural Resources Conservation Service
NF ₃	nitrogen trifluoride	NRD	Natural Resources District
NFO	Non-significant Fossil Occurrence	NRDC	Natural Resources Defense Council
NGFC	Nebraska Game and Fish Commission	NRHP	National Register of Historic Places
NGL	natural gas liquids	NSA	noise sensitive areas
NGPAS	Northern Great Plains Aquifer System	NSPS	New Source Performance Standards
NGPC	Nebraska Game and Parks Commission	NSR	New Source Review
NGPD	Nebraska Game and Parks Department	NTSB	National Transportation Safety Board
NHD	National Hydrography Dataset	NW	noxious weed
NHP	Natural Heritage Program	NWI	National Wetland Inventory
NHPA	National Historic Preservation Act of 1986	NWP	Nationwide Permit
NHPAQ	Northern High Plains Aquifer	O ₂	oxygen gas
NHTSA	National Highway Traffic Safety Administration	O ₃	ozone
NID	National Interest Determination	OCC	Operations Control Center
NLAA	may affect, not likely to adversely affect	OGJ	Oil & Gas Journal
NLCD	National Land Cover Database	OGP	International Association of Oil and Gas Producers
NMHC	non-methane hydrocarbon	OPA	other populated area
NNLP	Nebraska Natural Legacy Project	OPA 90	Oil Pollution Act of 1990
NNRC	Nebraska Northeastern Railway Company	OPS	Office of Pipeline Safety
NO ₂	nitrogen dioxide	OW	open water
NOA	Notice of Availability	PA	Programmatic Agreement
NOAA	National Oceanic and Atmospheric Administration	PADD	Petroleum Administration for Defense District
NOI	Notice of Intent	PAH	polycyclic aromatic hydrocarbons
NO _x	nitrogen oxide	Pb	lead
NPDES	National Pollutant Discharge Elimination System	PCIC	project cumulative impact corridor
		PEM	palustrine emergent wetland
		PFC	perfluorocarbon
		PFO	palustrine forested wetland
		PFYC	Potential Fossil Yield Classification
		PHMSA	Pipeline Hazardous Material Safety Administration
		PI	point of inflection (angle)

PM	particulate matter	RP	Recommended Practice
PM ₁₀	particulate matter with aerodynamic diameter of 10 microns and less	RPMA	Recovery-Priority Management Area
PM _{2.5}	particulate matter with aerodynamic diameter of 10 microns and less	RPS	Renewable Portfolio Standard
PMMP	Paleontological Monitoring and Mitigation Plan	RUS	Rural Utilities Service
PMP	Pipeline Maintenance Program	RV	recreational vehicle
POTW	publically owned treatment works	SAGD	Steam-assisted gravity drainage
PPA	Protection Priority Areas	SARA	Species at Risk Act
PPD	Public Power District	SC	species of concern
PPE	personal protective equipment	SCADA	Supervisory Control and Data Acquisition
ppm	parts per million	SCC	stress corrosion cracking
ppmw	parts per million by weight	SCO	synthetic crude oil
PPR	Prairie Pothole Region	SD	South Dakota
Project	Keystone XL Project	SD DOT	South Dakota Department of Transportation
PS	pump station	SDA	South Dakota Department of Agriculture
PSD	prevention of significant deterioration	SDCL	South Dakota Common Law
psi	pounds per square inch	SDDENR	South Dakota Department of Environment and Natural Resources
psig	pounds per square inch gauge	SDGFP	South Dakota Game, Fish, and Parks
PSRP	Pipeline Spill Response Plan	SDIWWG	South Dakota Interagency Wetlands Working Group
PSS	palustrine scrub shrub wetland	SDPUC	South Dakota Public Utilities Commission
ptb	pounds per thousand barrels	SDSMT	South Dakota School of Mines and Technology
PWS	public water supply	SDWA	Safe Drinking Water Act
py	pikeyard	SER	Supplemental Environmental Report
QC	quality control	SF ₆	sulfur hexafluoride
R	riverine wetlands	SFL	Significant Fossil Localities
R-STRENG	remaining strength	SFM	Office of the State Fire Marshall
RBOB	reformulated blendstock for oxygenate blending	SHPO	State Historic Preservation Office(er)
Rec	recreation	SIP	State Implementation Plan
Reclamation	Bureau of Reclamation	SMS	Scenery Management System
REX-W	Rockies Express-West	SO ₂	sulfur dioxide
RFI	radio frequency interference	SOR	Steam-oil ratio
RFS2	USEPA Renewable Fuel Standard		
riv-OW	riverine-open water		
ROD	Record of Decision		
ROS	rest of state		
ROW	right-of-way		

SPCC	Spill Prevention, Control, and Countermeasure	VES	variable frequency drive equipment shelter
SPSO	Southwest Power Pool South	VOC	volatile organic compound
Supplemental EIS	Supplemental Environmental Impact Statement	vol%	percent volume
SWPA	Source Water Protection Area	VRM	visual resource management
TAN	total acid number	WCD	worst-case discharge
TBD	to be determined	WCI	Western Climate Initiative
TCE	trichloroethylene	WCSB	Western Canadian Sedimentary Basin
TCEQ	Texas Commission on Environmental Quality	WEG	Wind Erodibility Group
TCP	traditional cultural properties	Western	Western Area Power Administration
TDS	total dissolved solids	WHIP	Wildlife Habitat Incentive Program
TEFC	The Ecological Framework of Canada	WHPA	wellhead protection areas
THPO	Tribal Historic Preservation Officer	WHSRN	Western Hemisphere Shorebird Reserve Network
TKN	total Kjehldahl nitrogen	Williston Basin	A large sedimentary basin in eastern Montana, western North and South Dakota, and southern Saskatchewan known for its rich deposits of crude oil
TPG	The Perryman Group	WIPA	Western Interior Plains Aquifer
tpy	tons per year	WMA	wildlife management area
TSB	Transportation Safety Board	WMD	Wetland Management District
TTW	Tank-to-wheels	WRCC	Western Regional Climate Center
TWA	temporary workspace area	WRP	Wetland Reserve Program
UP	Union Pacific Railroad Company	wt%	weight percent
U.S.	United States	WTI	West Texas Intermediate
USACE	U.S. Army Corps of Engineers	WTR	Well-to-refinery gate
USBR	U.S. Bureau of Reclamation	WTT	well to tank
USC	United States Code	WTW	well to wheels
USDA	U.S. Department of Agriculture	WW	warmwater
USDOE	U.S. Department of Energy	WYGF	Wyoming Game and Fish Department
USDOT	U.S. Department of Transportation	yr	year
USEPA	U.S. Environmental Protection Agency		
USFS	U.S. Forest Service		
USFWS	U.S. Fish and Wildlife Service		
USGCRP	United States Global Change Research Program		
USGS	U.S. Geological Survey		
USNABCI	U.S. North American Bird Conservation Initiative		
UST	underground storage tank		

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